

ATTACHMENT F – FACT SHEET

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As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table 1. Facility Information

WDID	9 000000117
Discharger	South Orange County Wastewater Authority
Name of Facility	Aliso Creek Ocean Outfall
Facility Address	Pacific Ocean off Dana Point
Facility Contact, Title and Phone	Tom Rosales, General Manager (949) 234-5421
Authorized Persons to Sign and Submit Reports	Tom Rosales, General Manager
Mailing Address	34156 Del Obispo Street Dana Point, CA 92629 Orange County
Billing Address	34156 Del Obispo Street Dana Point, CA 92629 Orange County
Type of Facility	Combined ocean outfall
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Yes
Reclamation Requirements	Producer and Distributor (regulated under separate WDRs)
Facility Permitted Flow	32.86 MGD
Facility Design Flow	50 MGD (Outfall design flow)
Watershed	Pacific Ocean
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean

A. The South Orange County Wastewater Authority (SOCWA) (hereinafter Discharger) is a joint powers authority formed to reduce duplication and provide operational efficiency through consolidation. SOCWA is the legal successor to the Aliso Water Management Agency, the South East Regional Reclamation Authority, and the South Orange County Reclamation Authority. SOCWA is comprised of 10 member agencies including the City of Laguna Beach, the City of San Clemente, the City of San Juan Capistrano, El Toro Water District, Emerald Bay Service District, Irvine Ranch Water District, Moulton Niguel Water District (MNWD), Santa Margarita Water District (SMWD), South Coast Water District and Trabuco Canyon Water District.

- B.** SOCWA operates the Aliso Creek Ocean Outfall (Ocean Outfall), which receives treated effluent from the following municipal wastewater treatment plants; the SOCWA Joint Regional Plant (JRP), the SOCWA Coastal Treatment Plant (TP), the Los Alisos Water Reclamation Plant (WRP), and the El Toro Water Recycling Plant (WRP). In addition, non-potable treated groundwater and brine discharges from the Irvine Desalter Project are also routed to the Ocean Outfall.
- C.** The Discharger discharges effluent from a variety of sources through the Ocean Outfall to the Pacific Ocean, a water of the United States, and is currently regulated by Order No. 2001-08, which was adopted on February 21, 2001 and expired on February 21, 2006. Three addenda to the Order were issued on October 10, 2001 (to change the name of the Discharger to SOCWA), February 13, 2002 (to correct effluent limitations for TCDD equivalents), and December 8, 2004 (to authorize the discharge of brine waste from the Irvine Desalter Project, authorize the discharge of treated groundwater from the Department of the Navy's shallow groundwater unit, and to apply secondary treatment standards to each of the contributing municipal wastewater treatment plants). In accordance with 40 CFR 122.6, the terms of the existing Order automatically continued in effect after the permit expiration date.
- D.** The Discharger filed a Report of Waste Discharge (RoWD) and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on August 9, 2005.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

Order No. 2001-08 (NPDES Permit No. CA0107611) establishes discharge prohibitions, limitations, and conditions to regulate discharges of effluent consisting of treated wastewater and waste brine from the Discharger's Facilities to the Pacific Ocean. Order No. 2000-08 expired on February 21, 2006 and has been administratively extended until the adoption of this Order.

SOCWA provides services to the following municipalities and areas: the City of Laguna Beach (population 24,000), the City of Lake Forest (59,000), the City of Laguna Hills (population 31,000), the City of Laguna Niguel (population 62,000), and other communities (population 25,000). All of these areas are serviced by separate sanitary sewers.

The SOCWA JRP, located at 29201 La Paz Road, Laguna Niguel, is owned by SOCWA and the Moulton Niguel Water District and treats raw wastewater generated in the Moulton Niguel Water District service area. Wastewater treatment unit operations and processes are screening, aerated grit removal, primary sedimentation, activated sludge aeration, and secondary sedimentation. A portion of the secondary effluent is reclaimed for irrigation and receives tertiary treatment by chemical addition, coagulation, filtration,

and chlorine disinfection. The capacity of the existing tertiary treatment facility is 11.4 MGD. An average of 6.17 MGD of secondary treated wastewater is discharged to the Ocean Outfall. The Regional Water Board's Order No. 97-52 establishes reclamation requirements for the reuse of effluent from the JRP in the San Diego Region. The SOCWA JRP treats solids produced by JRP, raw solids trucked to the plant from the El Toro WRP, and raw solids transported by force main from the SOCWA Coastal TP. Solids treatment consists of dissolved air flotation thickening, anaerobic digestion, and centrifuge dewatering. Dewatered biosolids are removed from the facility by a private contractor and are either sent to a composting facility in Riverside County or applied on permitted land application sites in central and southern California. Screenings and grit are transported by a private contractor to a sanitary landfill in Simi Valley.

The SOCWA Coastal TP, located at 28303 Alicia Parkway, Laguna Niguel, is owned and operated by SOCWA and Moulton Niguel Water District and treats raw wastewater generated in the South Coast Water District, the City of Laguna Beach, and the Emerald Bay Services District. From Memorial Day through the end of September the City of Laguna Beach diverts nuisance water from storm drains to the domestic sewer system, which is sent to the SOCWA Coastal TP. Other, similar nuisance water diversions are planned by the South Coast Water District and, possibly, by the City of Laguna Beach. Aliso Creek diversions occurred for a short period of time in 1999 and 2000.

Wastewater treatment and unit operations and processes are screening, aerated grit removal, primary clarification, activated sludge aeration, and secondary clarification. A portion of the secondary effluent is reclaimed for irrigation and receives tertiary treatment by chemical addition, coagulation, filtration, and chlorine disinfection. The capacity of the existing tertiary treatment facility is 4.2 MGD. An average of 2.98 MGD of secondary treated wastewater is discharged to the Ocean Outfall. The Regional Water Board's Order No. 97-52 establishes reclamation requirements for the reuse of effluent from the SOCWA Coastal TP in the San Diego Region. Primary sludge and thickened waste activated sludge are combined and pumped through a force main to the SOCWA JRP for treatment and disposal. Screenings and grit are transported by a private contractor to a sanitary landfill in Simi Valley.

The Los Alisos WRP, located at 22312 Muirlands Boulevard, Lake Forest, is owned and operated by the Irvine Ranch Water District and treats raw wastewater generated within the Irvine Ranch Water District service area. Wastewater treatment unit operation and processes are screening and aerated lagoons. A portion of the secondary effluent is reclaimed for irrigation and receives tertiary treatment by chemical addition, flash mixing, coagulation, flocculation, sedimentation, filtration, and chlorine disinfection. The capacity of the existing tertiary treatment facility is 5.5 MGD. The Santa Ana Regional Water Quality Control Board's Order No. 94-03 establishes reclamation requirements for the reuse of effluent from the Los Alisos WRP in the Santa Ana Region. The Regional Water Board's Order No. 97-52 establishes reclamation requirements for the reuse of effluent from the Los Alisos WRP in the San Diego Region. Dewatered biosolids are either trucked to a composting facility in Riverside County or sent to the Prima Deschecha landfill. Screening from the plant influent are mixed with wood chips, composted, and used on various Irvine Ranch Water District owned properties as a soil

amendment. All effluent not reclaimed at the Los Alisos WRP is discharged to the Pacific Ocean through the Ocean Outfall. An average of 2.45 MGD of secondary treated wastewater is discharged to the Ocean Outfall.

The El Toro WRP, located at 23542 Moulton Parkway, Laguna Hills, is owned by El Toro Water District and treats raw wastewater generated in the El Toro Water District service area. Wastewater treatment unit operations and processes are coarse screening, aerated grit removal, fine screening, activated sludge aeration, and secondary clarification. A portion of the secondary effluent is reclaimed for irrigation and receives filtering and chlorine disinfection. The Santa Ana Regional Water Board Order No. 94-03 establishes reclamation requirements for the reuse of effluent from the El Toro WRP in the Santa Ana Region. The Regional Water Board's Order No. 97-52 establishes reclamation requirements for the reuse of effluent from the El Toro WRP in the San Diego Region. All effluent not reclaimed at the El Toro WRP is discharged to the Pacific Ocean through the Ocean Outfall. An average of 4.74 MGD of secondary treated wastewater is discharged to the outfall. Waste activated sludge is thickened using dissolved air floatation and then trucked to the SOCWA JRP for treatment and disposal. Screenings and grit are transported by a private contractor to a sanitary landfill in Simi Valley.

Secondary effluent from the four wastewater treatment plants is conveyed to the Ocean Outfall via the Effluent Transmission Main. The Effluent Transmission Main consists of five reaches (A through E) and the on-shore portion of the Ocean Outfall.

- Reach A runs from the Los Alisos WRP southwesterly to the junction with the El Toro WRP. This land outfall is 11,904 feet long with a capacity of 7.5 MGD. Effluent from the Los Alisos WRP that is not reused enters this land outfall.
- Reaches B and C run from the El Toro WRP southeasterly towards Aliso Creek. Reach B terminates at the crest of the Moulton Parkway. The Reach B land outfall is 4,012 feet long with a capacity of 15 MGD. Reach C is the start of the gravity flow in the Effluent Transmission Main, runs southeasterly along the Moulton Parkway, and ends where Aliso Creek passes under Moulton Parkway. The Reach C land outfall is 3,654 feet long with a capacity of 15 MGD. Effluent from the El Toro WRP that is not reused enters this land outfall.
- Reach D runs southerly along the Aliso Creek Valley. This land outfall is 18,305 feet long with a capacity of 15 MGD. At the junction of Reaches D and E, effluent from the SOCWA JRP that is not reused enters the Effluent Transmission Main via a land outfall that is 6,860 feet long with a capacity of 20 MGD.
- Reach E runs in a southerly direction along the Aliso Creek Valley to the junction with the on-shore portion of the Ocean Outfall. This land outfall is 17,210 feet long with a capacity of 32.2 MGD.
- The on-shore portion of the Ocean Outfall starts at the junction with Reach E and the SOCWA Coastal TP and continues to the Ocean Outfall. This land outfall is 5,405 feet long with a capacity of 50 MGD. Effluent from the SOCWA Coastal TP that is not reused enters this land outfall.

Over the 5-year period between 2001 and 2005 the combined flow rate of effluent discharged through the Ocean Outfall from the municipal wastewater treatment plants is provided in Table 2 below.

Table 2. Effluent Flows for Municipal Wastewater Treatment Plants Contributing to the Ocean Outfall

Treatment Facility	Existing Secondary Treatment Design Capacity (MGD)	March 2001- March 2005	
		Maximum Effluent Flow	Average Effluent Flow
SOCWA Joint Regional Plant	12	16.29	6.17
SOCWA Coastal Treatment Plant	6.7	6.9	2.98
Los Alisos Water Reclamation Plant	7.5	6.39	2.45
El Toro Water Recycling Plant	6.0	8.50	4.74
Total	32.2	38.08	16.34

As described above, the SOCWA Coastal TP receives seasonal nuisance flows from a variety of projects within the City of Laguna Beach designed to keep dry-weather low-volume stormwater flows in specific storm drains from crossing the beaches to the ocean by diverting the untreated flows to the SOCWA Coastal TP collection system. Table 3 summarizes the sources of these dry weather nuisance flows to the SOCWA Coastal TP.

Table 3. City of Laguna Beach Nuisance Flow Diversions

Facility			Date Constructed	Storm Drain Drainage Area	Estimated Flow (gpd)
Outlet #	Location	Description			
6	Barranca-1300 Cliff Drive	Outlet on road	Existing 2001	20	1,400
9(a)	Heisler Park North End-Divers Cove	Architectural stone headwall	Existing 1998	45 (9a+9b)	1,575
9(b)	Fisherman's Cove/Heisler Park	Outlet through brick wall	Existing 1998	45 (9a+9b)	1,575
15(a)	Laguna Canyon Channel	In channel next to maintenance yard	Existing 1987	133	140,000
16	Laguna Avenue/Main Beach South	Beach Outlet	Existing 1998	120	8,400
17	Cleao Street	Old Baffle Block Structure	Existing 2001	209	14,630
27	1585 Pacific Coast Highway at Blue Bird Canyon	concrete headwall with board slots	Existing 1997	401	28,140

Outlet #	Facility		Date Constructed	Storm Drain Drainage Area	Estimated Flow (gpd)
	Location	Description			
33	Dummond Drive/Victoria Beach Next to stairs; narrow notch	Reinforced concrete narrow channel w/CDS unit	Existing 2003	175	12,250
40	Treasure Island South below Fred Lang Park	Heavy Brush	Existing 2002	7	10,000
47	5th Avenue/South Coast Highway	Outlet high on bluff	Existing 1999	15	3,150
N/A	City Maintenance Yard, wash rack sump	City Maintenance yard	Existing 1999	Negligible	600
11	100 Jasmine Street	Outlet high on bluff	Existing 2003	32	2,240
20	100 Anita Street	Wing wall outlet	Existing 2003	33	2,310
21	100 Oak Street	Outlet under pedestrian structure; curb opening inlet	Existing 2003	33	2,310
28	1724 Ocean Way	Grate basin at top false rock outlet; under private home	Existing 2003	97	6,970
Total Existing Estimated Flow (gpd)					235,550

The Irvine Desalter Project (IDP) is operated by the IRWD. The project is scheduled to be operational in mid-2006 and will treat groundwater from wells located either within or near a plume of volatile organic compound (VOC) contaminated groundwater on or near the former Marine Corps Air Station (MCAS) El Toro. The primary VOC of concern in the groundwater is trichloroethylene (TCE). Extracted groundwater will be treated using air stripping and/or used for irrigation and other non-potable uses. The contaminated groundwater is extracted from three areas:

- Approximately 400 gallons per minute (gpm) or 0.58 MGD of groundwater from extraction wells within the Department of the Navy's shallow groundwater unit (SGU) will be treated using air stripping and are disposed by injection within the Santa Ana Basin. If the injection well is out of service or the flowrate from SGU wells exceed the capacity of the injection well, the treated water will be directed to the Ocean Outfall.
- Approximately 1,000 gpm (1.44.MGD) of groundwater from IRWD well ET-1 will be treated using air stripping at a treatment facility located at the intersection of Jeffery Road and Irvine Center Drive in Irvine and then distributed for irrigation and other non-potable uses within the Santa Ana Basin. Flow from this well is not discharged through the Ocean Outfall.
- Approximately 1,900 gpm (2.74 MGD) of groundwater from IRWD wells 78 and 113 will be distributed untreated for irrigation and other non-potable uses within the Santa Ana Basin. Flow from these wells will not be discharged through the Ocean Outfall.

The IDP will also consist of a potable water treatment system using reverse osmosis (RO). The RO treatment system is located approximately 4 miles southeast of the intersection of Sand Canyon Avenue and Irvine Center Drive in Irvine, California. Approximately 3,200 gpm (4.61 MGD) of groundwater from wells upgradient of the contaminated groundwater plume in Irvine, California will be treated and distributed as potable water. Approximately 457 gpm (0.66 MGD) of RO reject, or brine, will be directed for disposal through the Ocean Outfall.

B. Discharge Points and Receiving Waters

The Ocean Outfall has been in use since 1979. The outfall extends 7,900 feet offshore in a southwesterly direction from the mouth of Aliso Creek. The inshore end of the diffuser is located approximately 6,700 feet offshore at a depth of approximately 170 feet. The diffuser, which is collinear with the rest of the outfall, is approximately 1,200 feet long and extends to a maximum depth of 195 feet. The terminus of the diffuser is located at Latitude 33°32'34" N and Longitude 117°49'02" W. The design capacity of the Ocean Outfall is 50 MGD.

For the previous Order, the Regional Water Board, with assistance from the State Water Board, determined the minimum initial dilution factor to be 260 for the discharge of up to 27.0 MGD of effluent through the Ocean Outfall using the computer modeling package UMERGE. The Regional Water Board reassessed the initial dilution factor in 2004 when considering authorization of the brine discharge from the IDP. The result of this analysis indicated that the addition of the brine discharge would not have a significant impact on the initial dilution factor. Thus the previous initial dilution factor of 260 has been carried over for use in this Order.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order No. 2001-08 for major constituents and properties of wastewater for discharges from the Ocean Outfall, and representative monitoring data for the period March 2001 through December 2005 are as follows:

Table 4. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (March 2001 – December 2005)	
		Monthly Average (30-day)	Weekly Average (7-day)	Maximum at any time	Mean	Maximum
Flow ¹	MGD			27	15.9	35.8
CBOD ₅	mg/L	25	40	45	6.3	20.9
	lbs/day	6,255	10,008	11,259	835	3,559
TSS	mg/L	30	45	50	9.1	36.9
	lbs/day	7,506	11,259	12,510	1,197	6,239

Parameter	Units	Effluent Limitation			Monitoring Data (March 2001 – December 2005)	
		Monthly Average (30-day)	Weekly Average (7-day)	Maximum at any time	Mean	Maximum
pH	pH units	6.0 - 9.0			7 ²	7.7
Oil and Grease	mg/L	25	40	75	5	5
	lbs/day	6,255	10,008	18,765	677	1,700
Settleable Solids	ml/L	1	1.5	3	0.2	3
Turbidity	NTU	75	100	225	5.7	10.9
Acute Toxicity	TU _a	1.5	2	2.5	0.45	0.82

¹ Average dry weather flow.

² This data point represents the minimum reported pH.

The reported effluent flow discharged through the Ocean Outfall has exceeded the flow effluent limitation on 11 occasions during the period March 2001 through January 2005. Based on reported flows, the maximum flow effluent limitation was exceeded on March 1st, 3rd, 4th, 11th, and 25th, 2001 (27.2, 28.5, 28.6, 28.7, and 28.7 MGD respectively); March 15th, 16th, and 24th, 2003 (31.2, 27.6, and 28.9 MGD, respectively), and January 9th, 10th, and 11th, 2005 (30.9, 35.8, and 30.1 MGD, respectively). In most cases, the Discharger attributed the high reported flows to heavy rainfall increasing flow.

Effluent limitations for major constituents and properties of wastewater for discharges from the SOCWA JRP, and representative monitoring data for period March 2001 through December 2005 are as follows:

Table 5. Historic Effluent Limitations and Monitoring Data (SOCWA JRP)

Parameter	Units	Effluent Limitation			Monitoring Data (March 2001 - December 2005)	
		Monthly Average (30-day)	Weekly Average (7-day)	Daily Value	Mean	Maximum
Flow	MGD				5.9	20.7
pH	pH units	6.0 - 9.0			7 ¹	8.3
Oil and Grease	mg/L	25	40	75	0.77	2.1
	lbs/day			17,000	76.8	125
Turbidity	NTU	75	100	225	3.1	17

¹ This data point represents the minimum reported pH.

The effluent discharged through the JRP did not exceed any applicable effluent limitations. It should be noted however, that the reported flow exceeded the design flow (12 MGD) on 16 occasions during the period March 2001 through January 2005.

Effluent limitations for major constituents and properties of wastewater for discharges from the SOCWA Coastal TP, and representative monitoring data for period March 2001 through December 2005 are as follows:

Table 6. Historic Effluent Limitations and Monitoring Data (SOCWA Coastal TP)

Parameter	Units	Effluent Limitation			Monitoring Data (March 2001 - December 2005)	
		Monthly Average (30-day)	Weekly Average (7-day)	Daily Value	Mean	Maximum
Flow	MGD				2.97	6.9
pH	pH units	6.0 – 9.0			6.8 ¹	7.9
Oil and Grease	mg/L	25	40	75	0.86	2.9
	lbs/day			17,000	37	133
Turbidity	NTU	75	100	225	3.7	26.3

¹ This data point represents the minimum reported pH.

The effluent discharged through the SOCWA Coastal TP did not exceed any applicable effluent limitations. It should be noted however, that the reported flow exceeded the design flow (6.7 MGD) on two occasions during the month of August 2001.

Effluent limitations for major constituents and properties of wastewater for discharges from the Los Alisos WRP, and representative monitoring data for period March 2001 through December 2005 are as follows:

Table 7. Historic Effluent Limitations and Monitoring Data (Los Aliso WRP)

Parameter	Units	Effluent Limitation			Monitoring Data (March 2001 - December 2005)	
		Monthly Average (30-day)	Weekly Average (7-day)	Daily Value	Mean	Maximum
Flow	MGD				2.4	6.34
pH	pH units	6.0 - 9.0			6.5 ¹	8.5
Oil and Grease	mg/L	25	40	75	5	5.9
	lbs/day			17,000	111	193
Turbidity	NTU	75	100	225	10.7	28.2

¹ This data point represents the minimum reported pH.

The effluent discharged through the Los Aliso WRP did not exceed any applicable effluent limitations. It should be noted however, that the reported flow exceeded the design flow (7.5 MGD) on six occasions during the period January 2004 through February 2004.

Effluent limitations for major constituents and properties of wastewater for discharges from the El Toro WRP, and representative monitoring data for period March 2001 through December 2005 are as follows:

Table 8. Historic Effluent Limitations and Monitoring Data (El Toro WRP)

Parameter	Units	Effluent Limitation			Monitoring Data (March 2001 - December 2005)	
		Monthly Average (30-day)	Weekly Average (7-day)	Daily Value	Mean	Maximum
Flow	MGD				4.66	8.5
pH	pH units	6.0 - 9.0			6.5 ¹	8
Oil and Grease	mg/L	25	40	75	0.59	4.9
	lbs/day			17,000	101.9	189
Turbidity	NTU	75	100	225	6.19	15.1

¹ This data point represents the minimum reported pH.

The effluent discharged through the El Toro WRP did not exceed any applicable effluent limitations. It should be noted however, that the reported flow exceeded the design flow (6.0 MGD) on 33 occasions during the period October 2002 through January 2005.

Order No. 2001-08 also requires that the 30-day average removals of CBOD₅ and TSS be 85 percent or greater. All data submitted from March 2001 through December 2005 indicate compliance with the percent removal requirements for CBOD₅ and TSS.

Order No. 2001-08 established effluent limitations for toxic pollutants based on water quality objectives of the 1997 Ocean Plan and required monitoring at the intervals shown in the table below.

Table 9. Toxic Pollutant Monitoring Requirements in Order No. 2001-08

Toxic Pollutant from Table B of the Ocean Plan (1997)	Monitoring Frequency
Ammonia	Monthly
Total Chlorine Residual	Daily
Chronic Toxicity	Monthly
Table B pollutants listed with Objectives for the Protection of Marine Aquatic Life from the Ocean Plan (1997) except ammonia, total chlorine residual and chronic toxicity	Quarterly
All other Table B pollutants from the Ocean Plan (1997)	Semi-Annually

Monitoring of toxic pollutants for the period March 2001 through October 2005 showed the following results:

1. During this period, effluent limitations for toxic pollutants from Table B of the Ocean Plan were not exceeded. It should be noted that relatively high values were reported for total chlorine residual (TCR) on five occasions. On June 22, 2003 TCR was reported as 3,000 ug/L at the SOCWA JRP. On January 14th, 15th, 19th, and 21st, 2004, TCR was reported as 2,400 ug/L, 2,500 ug/L, 2,300 ug/L, and 2,600 ug/L, respectively, at the Los Alisos WRP.
2. Analytical results reported by the Discharger indicate that the method detection limits used for analyses of several pollutants were, at times, greater than the corresponding effluent limitation and/or the Minimum Level established by the 2001 Ocean Plan. These pollutants include acrylonitrile, aldrin, benzidine, chlordane, DDT, 3,3-dichlorobenzidine, dieldrin, hexachlorobenzene, PAHs, PCBs, TCDD equivalents, and toxaphene.

D. Compliance Summary

As described above, the Discharger has complied with the effluent limitations of Order No. 2001-08. Over the previous permit term, there were no instances of non-compliance resulting in monetary penalties.

On December 8, 2005, a compliance evaluation inspection (CEI) was performed at the SOCWA JRP to determine compliance with NPDES permit conditions. A summary of the major findings from the CEI are provided below:

- An effluent sampling point that represents the combined effluent flows from all contributors does not exist for the Aliso Creek Ocean Outfall. For toxic pollutant parameters, SOCWA requires coordinated sampling by all contributors and then prepares a manually flow-weighted sample. To prepare the flow-weighted composite sample, SOCWA requires each contributor to obtain a certain sample volume on the same day and then send the samples to the laboratory at the SOCWA Jay B. Latham Regional Plant. Based on the reported flow from each contributor for the day of sampling, SOCWA prepares a flow-weighted composite sample that is then sent out to a contract laboratory for analysis. SOCWA requires each contributor to collect volatile organic analyte (VOA) samples in accordance with approved sampling protocol (in glass vials void of air bubbles and hermetically sealed). SOCWA then reopens these VOA samples and prepares a flow-weighted composite sample for analysis. This method of compositing specifically violates the sample collection, preservation, and handling requirements specified in the facility's Monitoring and Reporting Program, Section B.3. The relevant methods are Standard Methods 601, 602, 603, 624, 1624.
- When compiling data and calculating daily and monthly concentrations and loadings, SOCWA is somewhat inconsistent in how they treat data reported as non-detect or less than values. For some parameters a value of zero is used,

and for others, a value less than the reported detection limit is used. While these inconsistencies did not have an effect on the compliance status of the facility, the facility was advised to develop and implement a consistent process for handling non-detect and less than values.

On March 1, 2006, a CEI was performed at the SOCWA Coastal TP to determine compliance with NPDES permit conditions. A summary of the major findings from the CEI are provided below:

- The permit requires that the effluent sampling station be located so that a representative sample may be collected. The last three CEI reports identified a deficiency with the effluent self-monitoring location. Samples are collected from the secondary effluent line prior to the plant effluent holding tank. This location will not provide representative samples in a number of conditions (i.e. when the effluent holding tank has been contaminated by birds, when there is no discharge due to the operation of the AWT plant, etc). SOCWA has plans to relocate the final effluent flow measurement and sample monitoring location during the summer of 2006.
- The facility reported a chemical tank rupture June 22, 2005 which involved the release of 1,780 gallons of bleach used in the headworks air scrubber system. The released bleach was reported to be contained in the containment area and the facility drainage system. The bleach was pumped to the headworks for disposal. An evaluation of the spill area found that the bleach storage tank is located on a platform within a secondary containment area, however, the platform is approximately the same height as the containment walls and in very close proximity of the containment walls. In addition, the inspector was informed that the secondary containment area didn't have the capacity to hold the bleach stored in the tank. These two factors lead to the bleach being released outside the containment area. Impacts to the vegetation outside the containment area as well as the route in which the bleach flowed after overflowing the containment area were noted. SOCWA should evaluate the facility's chemical stored capacity's and safety needs to ensure that proper chemical management practices are employed and that all applicable environmental and safety requirements are achieved.

On December 12, 2006, CEIs were performed at the Los Aliso WRP and the El Toro WRP to determine compliance with NPDES permit conditions. No major issues were identified as a result of the inspections at either plant.

E. Planned Changes

Although there are a variety of capital improvements projects planned for each of the contributing municipal wastewater treatments to the Ocean Outfall, there are no major changes planned that would affect the capacity of the treatment plants or effluent quality.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the tentative Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal CWA and implementing regulations adopted by the USEPA and Chapter 5.5, Division 7 of the CWC. It shall serve as a NPDES permit for point source discharges from the Discharger's Facilities to the Pacific Ocean at Outfall 001. This Order also contains discharge prohibitions, effluent limitations, discharge specifications, provisions, and other requirements pursuant to the CWC.

B. California Environmental Quality Act (CEQA)

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan for the San Diego Basin* (hereinafter Basin Plan) on September 8, 1994. The Basin Plan was subsequently approved by the State Water Board on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Water Board and approved by the State Water Board. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Beneficial uses applicable to the Pacific Ocean are shown in the table below.

Table 10. Basin Plan Beneficial Uses of the Pacific Ocean

Discharge Point	Receiving Water Name	Beneficial Use
Outfall 001	Pacific Ocean	Industrial Service Supply; Navigation; Contact Water Recreation; Non-Contact Water Recreation; Commercial and Sport Fishing; Preservation of Biological Habitats of Special Significance; Wildlife Habitat; Rare, Threatened, or Endangered Species; Marine Habitat; Aquaculture; Migration of Aquatic Organisms; Spawning, Reproduction, and/or Early Development; Shellfish Harvesting

The Basin Plan relies primarily on the requirements of the *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan) for protection of the beneficial

uses of the State ocean waters. The Basin Plan, however, may contain additional water quality objectives applicable to the Discharger.

On November 16, 2000 the State Water Board adopted a revised Ocean Plan. The revised Ocean Plan became effective on December 3, 2001. The Ocean Plan was amended in April 2005 to address reasonable potential and Areas of Special Biological Significance. The Ocean Plan contains water quality objectives and beneficial uses for the ocean waters of California. The beneficial uses of State ocean waters to be protected are summarized in the table below.

Table 11. Ocean Plan Beneficial Uses of the Pacific Ocean

Discharge Point	Receiving Water Name	Beneficial Use
Outfall 001	Pacific Ocean	Industrial Water Supply; Water Contact and Non-Contact Recreation, Including Aesthetic Enjoyment; Navigation; Commercial and Sport Fishing; Mariculture; Preservation and Enhancement of Designated Areas of Special Biological Significance; Rare and Endangered Species; Marine Habitat; Fish Migration; Fish Spawning and Shellfish Harvesting

In order to protect these beneficial uses, the Ocean Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics and for radioactivity), general requirements for management of waste discharged to the ocean, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions.

The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. The Thermal plan contains temperature objectives for coastal waters.

Requirements of this Order specifically implement the applicable Water Quality Control Plans.

2. **Antidegradation Policy.** 40 CFR 131.12 requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution No. 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution No. 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.
3. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding

provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order or have been removed, consistent with the anti-backsliding requirements of the CWA and federal regulations. Technology-based acute toxicity effluent limitations have been replaced with water quality-based acute toxicity effluent limitations consistent with Sections 402(o) and 303(d)(4) of the CWA and 40 CFR 122.44(1). Concentration and mass emission rate effluent limitations for several constituents listed under Table B of the Ocean Plan, including silver, have been removed as a result of new information from a reasonable potential analysis and is consistent with Section 402(o) of the CWA and 40 CFR 122.44(l). Several concentration effluent limitations, like for silver, have been replaced with numerically lower performance goals based on the relaxed water quality objectives that were introduced in the 2001 Ocean Plan. Mass emission rate effluent limitations have been replaced with numerically higher performance goals as a result of greater flowrates stemming from material and alterations or additions to the permitted facilities.

4. **Monitoring and Reporting Requirements.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (Attachment E) establishes monitoring and reporting requirements to implement federal and State requirements.

D. Impaired Water Bodies on CWA 303(d) List

On June 5 and July 25, 2003, the USEPA approved the list of impaired water bodies, prepared by the State Water Board pursuant to Section 303 (d) of the CWA, which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations for point sources. The 303(d) list includes the following sections of Pacific Ocean shoreline within the proximity of the Ocean Outfall as impaired for bacteria indicators:

1. 0.65 miles of Pacific Ocean shoreline at Aliso HSA (starting at Laguna Beach down to Aliso Beach).
2. 0.29 acres at the mouth of Aliso Creek.

Impairment has been detected at the shorelines indicated above; no approved TMDLs have been developed for these areas, and therefore this Order does not include any wasteload allocations.

E. Other Plans, Policies and Regulations

1. **Secondary Treatment Regulations.** 40 CFR Part 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations,

established by the USEPA, are incorporated into Order No. R9-2006-0055, except where more stringent limitations are required by other applicable plans, policies, or regulations.

2. **Storm Water.** Sewage treatment works with a design flow of 1.0 MGD or greater are required to comply with Water Quality Order No. 97-03-DWQ (NPDES General Permit No. CAS000001), Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activity, Excluding Construction Activities. The Discharger shall file a Notice of Intent within 60 days of adoption of this Order (unless already submitted under the previous Order) and comply with Order No. 97-03-DWQ or the Discharger shall provide certification to the Regional Water Board that all storm water is captured and treated on-site and no storm water is discharged or allowed to run off-site from the facility.
3. **Pretreatment.** Discharges of pollutants that may interfere with operations of a POTW are regulated by USEPA's pretreatment regulations at 40 CFR Part 403. These regulations require Dischargers to develop and implement pretreatment programs that impose limitations on industrial users of the POTW if the POTW treats 5 MGD of wastewater or more.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source discharges to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations; and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality objective to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, three options exist to protect water quality using narrative water quality objectives: 1) 40 CFR 122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); 2) proposed State criteria or a State policy interpreting narrative objective supplemented with other relevant information may be used; or 3) an indicator parameter may be established.

A. Discharge Prohibitions

Prohibition A.1 of Order No. 2001-08 has been modified to clearly define what types of discharges are prohibited by this Order. The modified prohibition is contained in Section III.A of Order No. R9-2006-0055.

1. Prohibition A requires all discharges from the SOCWA JRP, the SOCWA Coastal TP, the Los Alisos WRP, and the El Toro WRP to be treated by at least a secondary treatment process. The USEPA states that "The biological treatment component of a municipal treatment plant is termed secondary treatment and is usually preceded

by simple settling (primary treatment). Secondary treatment standards are established by EPA for publicly owned treatment works (POTWs) and reflect the performance of secondary wastewater treatment plants. These technology-based regulations apply to all municipal wastewater treatment plants and represents the minimum level of effluent quality attainable by secondary treatment, as reflected in terms of 5-day biochemical oxygen demand (BOD₅) and total suspended solids (TSS) removal.” (See http://cfpub.epa.gov/npdes/techbasedpermitting/sectreat.cfm?program_id=15). At this time, USEPA has not promulgated any provisions that would allow a discharge of treated municipal wastewater to waters of the US that has not been treated through a secondary treatment process or a process equivalent to secondary treatment, except under bypass and upset conditions recognized under Provisions I.G and I.H of Attachment D – Standard Provisions.

Prohibition A also prohibits discharge from the SOCWA JRP, the SOCWA Coastal TP, the Los Alisos WRP, and the El Toro WRP that do not comply with the effluent limitations contained in this Order, or a discharge to a location other than the Aliso Creek Ocean Outfall, unless specifically regulated by this Order or separate waste discharge requirements. The Santa Ana Regional Water Board Order No. 94-03 establishes reclamation requirements for the reuse of effluent from the Los Alisos WRP and El Toro WRP in the Santa Ana Region. The Regional Water Board’s Order No. 97-52 establishes reclamation requirements for the reuse of effluent from the SOCWA JRP, the SOCWA Coastal TP, the Los Alisos WRP, and the El Toro WRP in the San Diego Region. Regional Water Board’s Order No. 96-04 prohibits sanitary sewer overflows and also applies to SOCWA.

2. Section III.B of this Order lists additional discharge prohibitions from the Basin Plan. California Water Code Section 13243 provides that the Regional Water Board, in a water quality control plan or in waste discharge requirements, may specify certain conditions where the discharge of wastes or certain types of wastes that could affect the quality of water s of the state is prohibited. Inclusion of the Basin Plan prohibitions in the Order implements the reuirements of the Basin Plan. The Basin Plan prohibitions included in this Order are a subset of the complete set of Basin Plan prohibitions. Certain Basin Plan prohibitions did not apply to SOCWA’s discharge and were not included in this Order.
3. Prohibitions C, D, and E in Section III of this Order are additional discharge prohibitions from the 2005 California Ocean Plan. Prohibition C prohibits the discharge of waste to Areas of Special Biological Significance. Prohibition D prohibits the discharge of waste sludge and sludge digester supernatant to the ocean. Prohibition E prohibits the discharge of untreated waste that has bypassed all treatment processes, unless excepted in accordance with Ocean Plan Provision III.I. Discharges subject to this prohibition would include the discharge to the ocean of raw municipal wastewater that has not undergone any treatment through any of the treatment plant processes, and sanitary sewer overflows to the ocean.

B. Technology-Based Effluent Limitations

1. Scope and Authority

USEPA regulations at 40 CFR 122.44(a)(1) require permits to include technology-based effluent limitations and standards based on limitations and standards promulgated by the USEPA authorized under Section 301 of the CWA. USEPA promulgated technology-based effluent limitations and standards for publicly owned treatment works (POTWs) as secondary treatment regulations at 40 CFR Part 133.

Section III.B of the Ocean Plan prescribes effluent limitations that apply to POTWs and industrial discharges for which effluent limitations guidelines have not been established pursuant to Sections 301, 302, 304, or 306 of the federal CWA. Specifically Section III.B.3 of the Ocean Plan states that compliance with Table A effluent limitations shall be the minimum level of treatment acceptable under the Ocean Plan, and shall define reasonable treatment and waste control technology.

2. Applicable Technology-Based Effluent Limitations

Pursuant to Sections 301(b)(1)(B) and 304(d)(1) of the CWA, USEPA has established standards of performance for secondary treatment at 40 CFR Part 133. Secondary treatment is defined in terms of three parameters – 5-day biochemical oxygen demand (BOD₅), TSS, and pH. The following table summarizes the technology-based requirements for secondary treatment:

Table 12. Summary of Technology-Based Effluent Limitations for Secondary Treatment Facilities Established by USEPA at 40 CFR 133.102

Constituent	Monthly Average	Weekly Average	Percent Removal (%)
BOD ₅	30 mg/L	45 mg/L	85
TSS	30 mg/L	45 mg/L	85
pH	6.0 to 9.0 standard units		

Effluent limitations for the parameters BOD₅, TSS, and pH must be included in NPDES permits for POTWs; however, the parameter CBOD₅ (5-day carbonaceous biochemical oxygen demand) may be substituted for BOD₅ at the option of the permitting authority. The secondary treatment standards for CBOD₅ are 25 mg/L (monthly average), 40 mg/L (weekly average), and 85 percent removal. Consistent with the effluent limitations in the existing Order, limitations for CBOD₅ were incorporated into the permit in lieu of BOD₅ limitations.

As described in Section II of this Fact Sheet, SOCWA operates the Ocean Outfall, which receives treated effluent from the following municipal wastewater treatment plants; the SOCWA JRP, the SOCWA Coastal TP, the Los Alisos WRP, and the El Toro WRP. In accordance with the definition contained in 40 CFR 122.2, each of these wastewater treatment plants is considered a POTW. Further, in accordance with 40

CFR 125.3(a)(1), all POTWs are required to achieve the secondary treatment standards contained in 40 CFR Part 133. Therefore, consistent with Order No. 2001-08, the permit independently applies the secondary treatment standards to the SOCWA JRP, the SOCWA Coastal TP, the Los Alisos WRP, and the El Toro WRP.

Table A of the Ocean Plan establishes the following technology-based effluent limitations for POTWs and industrial discharges not subject to federal effluent limitations guidelines:

Table 13. Summary of Technology-Based Effluent Limitations for POTWs Established by the Ocean Plan

Constituent	Monthly Average	Weekly Average	Instantaneous Maximum	Percent Removal (%)
Oil and Grease	25 mg/L	40 mg/L	75 mg/L	
TSS				75 ¹
Settleable Solids	1.0 mL/L	1.5 mL/L	3.0 mL/L	
Turbidity	75 NTU	100 NTU	225 NTU	
pH	6.0 to 9.0 standard units			

¹ Dischargers shall, as a monthly average, remove 75% of TSS from the influent stream before discharging to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L.

The Table A effluent limitations will be applied to each of the contributing municipal wastewater treatment plants. However, the TSS percent removal requirement and standards under 40 CFR 133 for POTWs are more stringent than the Ocean Plan requirement; the more stringent TSS requirements are included in Order No. R9-2006-0055 for the discharges from the SOCWA JRP, the SOCWA Coastal TP, the Los Alisos WRP, and the El Toro WRP. The Discharger had requested that the settleable solids limitations that were also included in Order 2001-08 be excluded from the reissued permit. Their rationale included reference to the San Francisco Regional Water Board’s 2003 Basin Plan amendments that clarified that the settleable matter effluent limitation does not apply to secondary and advanced sewage treatment facilities. The effluent limitations that were amended in Water Quality Control Plan for the San Francisco Bay Region, however, apply to all sewage treatment facilities that discharge to inland surface waters and enclosed bays and estuaries. As described in Section III.C.1 of this Fact Sheet, the Ocean Outfall discharges are subject to the Ocean Plan and the Water Quality Control Plan for the San Diego Basin, neither of which currently includes provisions for excluding the effluent limitations for settleable solids.

The Ocean Plan Table A effluent limitations will also be applied to the industrial discharges to the ocean through the Ocean Outfall, including treated groundwater from the SGU and brine discharges from the IDP. However, due to the nature of the industrial discharges, the 60 mg/L monthly average TSS limitation will be applied in lieu of the 75% removal requirement.

Order No. R9-2006-0055 does not retain the maximum at anytime concentration and mass emission rate limitations for CBOD₅ and TSS contained in Order No. 2001-08 and previous permits for the Discharger which were established using best professional judgment. Recent attempts to derive maximum at anytime limitations based on the secondary treatment standards at 40 CFR Part 133 using appropriate statistical approaches did not yield similar results as the previous maximum at anytime limitations; therefore, based on this new information, retaining the previous maximum at anytime limitations in Order No. R9-2006-0055 is not supported.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

USEPA regulations at 40 CFR 122.44(d)(1)(i) require permits to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels, which cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The establishment of WQBELs in this Order, based on water quality objectives contained in the Ocean Plan, is in accordance with the USEPA regulations.

2. Applicable Beneficial Uses and Water Quality Objectives

a. Basin Plan

For all ocean waters of the State, the Basin Plan and its subsequent revisions establish the beneficial uses described previously in this Fact Sheet. The Basin Plan includes the following water quality objectives for dissolved oxygen and pH in ocean waters, which have been incorporated into Order R9-2006-0055:

- i. Dissolved Oxygen. The dissolved oxygen concentration in ocean waters shall not at any time be depressed more than 10 percent from that which occurs naturally, as a result of the discharge of oxygen demanding waste materials.
- ii. pH. The pH of receiving waters shall not be changed at any time more than 0.2 pH units from that which occurs naturally.

b. Ocean Plan

Order No. R9-2006-0055 has been written using the guidance of the Ocean Plan, which was most recently updated in 2001 and amended in April 2005, during the term of Order No. 2001-08.

For all ocean waters of the State, the Ocean Plan establishes the beneficial uses described previously in this Fact Sheet. The Ocean Plan also includes water quality objectives for the ocean receiving water for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and

radioactivity. A water quality objective for acute toxicity was added to the 2005 California Ocean Plan while the acute toxicity technology-based effluent limitation contained in the 1997 Ocean Plan was eliminated. Water quality objectives from the 1997 Ocean Plan were included as receiving water limitations in Order No. 2001-08 and water quality objectives from the 2005 California Ocean Plan are similarly included as receiving water limitations in Order No. R9-2006-0055.

Table B of the Ocean Plan includes the following water quality objectives for toxic pollutants and whole effluent toxicity:

- i. 6-month median, daily maximum, and instantaneous maximum objectives for 21 chemicals and chemical characteristics, including total residual chlorine and chronic toxicity, for the protection of marine aquatic life.
- ii. 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health.
- iii. 30-day average objectives for 42 carcinogenic chemicals for the protection of human health.
- iv. Daily maximum objectives for acute and chronic toxicity.

3. Expression of WQBELS

NPDES regulations at 40 CFR 122.45(d) require that all effluent limitations for POTWs be expressed, unless impracticable, as both average monthly and average weekly effluent limitations (AMEL and AWEL). This Order contains WQBELS that are based on water quality objectives contained in the 2005 California Ocean Plan and approved by USEPA, that are expressed as 6-month median, maximum daily, and instantaneous maximum water quality objectives for a given constituent; the implementation provision of the Ocean Plan provides procedures for developing 6-month median, maximum daily, and instantaneous maximum effluent limitation from the water quality objectives. The Ocean Plan does not provide procedures for deriving monthly and weekly-average effluent limitations from the water quality objectives, and other technically- and statistically-sound procedures are not available for deriving statistically-equivalent monthly-average and weekly-average effluent limitations from the Ocean Plan objectives that would satisfy the 6-month median, maximum daily, and instantaneous maximum objectives simultaneously. Consequently, this Order does not express effluent limitations in terms of only monthly and weekly averages but contains effluent limitations derived directly from the water quality objectives according to the implementation procedures of the Ocean Plan. Performance goals, discussed in more detail in Fact Sheet Section IV.C and IV.E, are expressed in a similar manner as WQBELS as described above. For similar reasons, effluent limitations and performance goals for constituents with water quality objectives expressed as a 30-day average only or as a maximum daily only are only provided as an average monthly effluent limitation or as a maximum

daily effluent limitation, respectively, and not as monthly and weekly average limitations.

The USEPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001, 1991) provides supporting rationale for shorter term effluent limitations such as maximum daily and instantaneous maximum WQBELS. In the TSD, USEPA recommends the use of maximum daily effluent limitations in lieu of AWELs for two reasons: 1) the AWEL is based on secondary treatment standards for POTWs and is not related to assuring achievement of water quality standards, and 2) weekly averages could average out peak toxic concentrations and therefore the effluent's potential for causing acute toxic effects would be missed. The TSD states that a maximum daily limitation would be toxicologically protective of potential acute toxicity impacts.

The MRP for this Order requires the effluent to be monitored for toxic constituents and parameters using a 24-hour composite sample or a grab sample, but not both. As explained in Section VII, Compliance Determination, of Order No. R9-2006-0055, compliance with maximum daily effluent limitations is determined only with composite samples while compliance with instantaneous maximum limitations is determined only with grab samples, in accordance with the Ocean Plan implementation provisions. This means, for example, if a constituent is required to be monitored with a composite sample, then the monitoring result can only be compared to the maximum daily and 6-month median effluent limitations but not the instantaneous maximum limitation.

4. Determining the Need for WQBELS

Order No. 2001-08 contained effluent limitations for non-conventional and toxic pollutant parameters in Table B of the Ocean Plan. For Order No. R9-2006-0055, the need for effluent limitations based on water quality objectives in Table B of the Ocean Plan was re-evaluated in accordance with 40 CFR 122.44(d) and guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the TSD and the California Ocean Plan Reasonable Potential Analysis (RPA) Amendment that was adopted by the State Water Board on April 21, 2005. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited number of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probable initial dilution) can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation. According to the Ocean Plan amendment, the RPA can yield three endpoints: 1) Endpoint 1, an effluent limitation is required and monitoring is required; 2) Endpoint 2, an effluent limitation is not required and the Regional Water Board may require monitoring; and 3) Endpoint 3, the RPA is inconclusive,

monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause is included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion. Endpoint 3 is typically the result when there are fewer than 16 data points and all are censored data (i.e., below quantitation or method detection levels for an analytical procedure).

The RPAcalc 2.0 software tool developed by the State Water Board was used for conducting a RPA. A 95% confidence level and 95th percentile were assumed. Effluent data provided in the Discharger's monitoring reports from March 2001 to December 2005 were used as the basis for the RPA. No background data for the constituents were available for use in the RPA; the background concentrations were assumed to equal zero for all pollutants except for those contained in the Ocean Plan Table B implementing procedures for arsenic, copper, mercury, silver, and zinc. As described in Section II.B of this Fact Sheet, for Order No. 2001-08 the State Water Board determined the minimum initial dilution for the Ocean Outfall, using the computer model UMERGE, to be 260. The Visual Plumes initial dilution factor was based on a 27.0 MGD outfall flowrate. Although the Regional Water Board considered reevaluation of the initial dilution factors for reissuance of this permit, inadequate ambient and effluent salinity data were available to provide accurate results. Therefore, the initial dilution of 260 was used for the RPA and calculating effluent limitations for this permit, and monitoring requirements are included to ensure adequate salinity data is available for reevaluation of the initial dilution when the permit is reissued again. Retaining the initial dilution of 260 for use in this permit is considered to be reasonable due the fact that the reported monthly average flow through the Ocean Outfall from March 2001 through September 2005 was 16.34 MGD. Conventional pollutants were not a part of the RPA and are included in this Order as described in Section B.2 of this Fact Sheet. Additional details of the RPA performed are provided in the Regional Water Board records.

Based on the RPA, the Regional Water Board has determined that effluent limitations are required for TCDD equivalents. The RPA for several pollutants (copper, lead, nickel, zinc, total chlorine residual, ammonia, and acute toxicity) resulted in Endpoint 2, and, therefore, do not require effluent limitations. For the remaining Table B pollutants, the RPA was inconclusive (Endpoint 3) primarily due to insufficient data points and the fact that most data points were reported below detection levels. Effluent limitations were not retained or included for these constituents. This Order includes desirable maximum effluent concentrations, referred to in this Order as "performance goals", for constituents that do not have reasonable potential (Endpoint 2) or had inconclusive RPA results (Endpoint 3). Performance goals were derived using the WQBEL calculation procedures described in Section IV.C.5 of this Fact Sheet. Performance goals are discussed further in Section IV.E of this Fact Sheet.

Tables 19 through 23 of this Fact Sheet lists the effluent limitations and performance goals for all constituents and their corresponding RPA results. The MRP for this Order requires monitoring for constituents with RPA Endpoints 1 for compliance

determination and future RPA. The MRP also requires monitoring for constituents with RPA Endpoints 2 or 3 to obtain effluent data that would allow determination of reasonable potential for these constituents in future permit renewals and/or updates.

Conventional and certain non-conventional pollutants (i.e., BOD₅ or CBOD₅, TSS, pH, oil and grease, settleable solids, and turbidity) were not a part of the RPA, and technology-based effluent limitations for these conventional pollutants are included in this Order as described in Section IV.B.2 of this Fact Sheet. As discussed above, reasonable potential analysis determines the need to include WQBELs that are in addition to technology-based effluent limitations. Effluent limitations for conventional and certain non-conventional pollutants are required as technology-based standards, and reasonable potential analysis is not necessary to determine if these effluent limitations are required.

5. WQBEL and Performance Goal Calculations

From the Table B water quality objectives of the Ocean Plan, effluent limitations are calculated according to the following equation for all pollutants, and performance goals are similarly calculated, except for acute toxicity (if applicable) and radioactivity:

$C_e = C_o + D_m (C_o - C_s)$ where,
 C_e = the effluent limitation ($\mu\text{g/L}$)
 C_o = the water quality objective to be met at the completion of initial dilution ($\mu\text{g/L}$)
 C_s = background seawater concentration
 D_m = minimum probable initial dilution expressed as parts seawater per part wastewater

The performance goal for acute toxicity is calculated according to the following equation:

$$C_e = C_o + (0.1) D_m (C_o - C_s)$$

where all variables are as indicated above. This equation applies only when $D_m > 24$.

The D_m is based on observed waste flow characteristics, receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. As discussed in Section IV.C.4 above, the minimum initial dilution of 260:1 from Order No. 2001-08, was used for the initial dilution factor, D_m , for the Ocean Outfall.

Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. For a submerged

buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

As site-specific water quality data is not available, in accordance with Table B implementing procedures, Cs equals zero for all pollutants, except the following:

Table 14. Pollutants Having Background Concentrations

Pollutant	Background Seawater Concentration
Arsenic	3 µg/L
Copper	2 µg/L
Mercury	0.0005 µg/L
Silver	0.16 µg/L
Zinc	8 µg/L

The WQBELs for TCDD equivalents are determined as follows:

Water quality objectives from the Ocean Plan are:

Table 15. TCDD Equivalents Ocean Plan Objectives

Pollutant	6-Month Median	Daily Maximum	Instantaneous Maximum	30 Day Average
TCDD Equivalents (µg/L)				3.9×10^{-9}

Using the equation, $C_e = C_o + D_m (C_o - C_s)$, effluent limitations are calculated as follows before rounding to two significant digits.

$$C_e = (3.9 \times 10^{-9}) + 260 [(3.9 \times 10^{-9}) - 0] = 1.02 \times 10^{-6} \text{ µg/L (30 Day Avg)}$$

Due to the fact that the same initial dilution that was used in Order No. 2001-08 is used, and the water quality objectives for TCDD equivalents have not changed, the concentration-based effluent limitations that are included in Order R9-2006-0055 are the same those contained in Order No. 2001-08.

Based on the RPA, except for TCDD equivalents, the WQBELs established by Order No. 2001-08 are not retained in Order R9-2006-0055. For those pollutants previously limited, non-enforceable performance goals are established in Order R9-2006-0055 using the same equation and methodology described above for TCDD equivalents. Several other constituents were affected by the difference in water quality objectives contained in the 1997 Ocean Plan and those contained in the 2005 California Ocean Plan. The specific differences between the water quality objectives and how they are addressed in Order R9-2006-0055 are described below:

- a. The 1997 Ocean Plan did not include water quality objectives for four toxic pollutants, which are included in the Ocean Plan (2005) –

chlorodibromomethane, dichlorobromomethane, N-nitrosodi-N-propylamine, and heptachlor epoxide; and therefore, effluent limitations for these pollutants were not established by Order No. 2001-08 and monitoring data was not available for these pollutants. Based on methods contained in the Ocean Plan (2005) and an initial dilution factor of 260, the following performance goals are included in Order No. R9-2006-0055.

Table 16. New Toxic Pollutants and Corresponding Performance Goals Based on the 2005 California Ocean Plan

Pollutant	Units	Monthly Average
Chlorodibromomethane	µg/L	868.6
Dichlorobromomethane	µg/L	626.2
N-nitrosodi-N-propylamine	µg/L	38.38
Heptachlor Epoxide	µg/L	0.002

- b. For eight toxic pollutants, water quality objectives are more stringent in the 2005 California Ocean Plan than in the 1997 Ocean Plan. The following table contains performance goals for these eight pollutants, which are based on methods and water quality objectives contained in the 2005 California Ocean Plan. These performance goals are included in Order No. R9-2006-0055.

Table 17. Toxic Pollutant Effluent Limitations or Performance Goals Based on the 2005 California Ocean Plan

Pollutant	Units	Performance Goal Monthly Average
1,1-Dichloroethylene	µg/L	90.9
Isophorone	µg/L	73,730.0
Tetrachloroethylene	µg/L	202.0
Thallium	µg/L	202.0
1,1,2,2-Tetrachloroethane	µg/L	232.3
1,1,2-Trichloroethane	µg/L	949.4
1,2-Dichloroethane	µg/L	2,828.0
Heptachlor	µg/L	0.005

- c. Table B of the Ocean Plan includes objectives for chlorinated and non-chlorinated phenolic compounds but does not define the individual chemical constituents comprising each group. In this Order, chlorinated phenolics are defined as the sum of 2-chlorophenol, 2,4-dichlorophenol, 3-methyl-4-chlorophenol, and pentachlorophenol; non-chlorinated phenolics are defined as the sum of 2-nitrophenol, 4-nitrophenol, and phenol.

6. Mass and Concentration Limitations

40 CFR 122.45(f)(1)(ii) states that all permit limitations, standards or prohibitions shall be expressed in terms of mass except under certain circumstances including “when applicable standards and limitations are expressed in terms of other units of

measurement.” This provision originates from regulations adopted by USEPA on June 7, 1979 as 40 CFR 122.15 (d) which required effluent limitations in terms of mass except under certain circumstances including “where applicable promulgated effluent guideline limitations, standards or prohibitions are expressed in other terms than mass, e.g., as concentration levels.” The 1979 provision indicated that concentration was clearly one of the “other terms than mass” and that the provision was limited to technology-based effluent limitations.

The 1979 provision underwent several modifications but achieved the language of the current 40 CFR 122.45 in revised rules promulgated by USEPA on May 19, 1980. The Federal Register Preamble for the revised rule promulgation (45 FR 33342) states “[the revised regulation] now provides permit issuers greater flexibility in using concentration limitations. Whenever appropriate, permits may include a concentration limit in addition to a mass limitation. Limitations expressed exclusively in terms other than mass may be used (1) when applicable effluent guideline limitations are expressed other than in mass; (2) when on a case-by-case basis the mass of the discharge cannot be related to production or other measures of operation, and dilution will not be used as a substitute for treatment; or (3) for pH or other pollutants which cannot appropriately be expressed as mass. For example, total suspended solids discharges from certain mining operations may be unrelated to measures of operation. Finally, a permit can always contain a non-mass limit in addition to a mass limitation, and the permittee must comply with both.”

In the case of secondary treatment standards which are expressed as BOD₅ (or CBOD₅) and TSS concentrations and technology-based concentration effluent standards for oil and grease under Table A of the Ocean Plan, the need for mass emission rate (MER) limitations that are directly related to protection of ocean waters or proper operation has not been determined. Consequently, MER effluent limitations for CBOD₅, TSS and oil and grease have not been included in this Order; however, if information demonstrating a need for these limitations becomes available in the future, they may be reinstated in this Order.

For effluent limitations and performance goals based on water quality objectives, MER limitations are retained in the revised tentative Order. This is appropriate because the Ocean Plan’s Implementation Provisions for Table B require that “[d]ischarge requirements shall also specify effluent limitations in terms of mass emission rate limits using the general formula: Equation 3: lbs/day = 0.00834 x Ce x Q” The Ocean Plan clearly intended to also limit the discharge of toxic pollutants on a mass-loading basis.

No differentiation is made between discharges during dry-weather and wet-weather periods. To avoid apparent exceedances of MER effluent limitations when flows to the SOCWA collection system increase during wet weather and sample concentrations are either non-detect (ND) or “detected, not quantified” (DNQ), Provision VII.G of Order No. R9-2006-0055 requires that corresponding calculated MERs also be reported as either ND or DNQ, as appropriate.

In Order 2001-08, a flow of 27.0 MGD was used as the basis for calculating MERs. Consistent with the requirements at 40 CFR 122.45(b), MERs will be based on a total flow of 32.86 MGD. This flow represents a combination of the design flows for POTWs (32.2 MGD) and the long-term average flow for the IDP (estimated as 0.66 MGD). As described earlier, there is uncertainty of how often discharges from the SGU will occur and at what volume, therefore the MERs do not account for this flow.

7. Whole Effluent Toxicity (WET)

Implementing provisions at Section III.C of the Ocean Plan require that Dischargers shall conduct chronic toxicity testing for ocean waste discharges with minimum initial dilution factors ranging from 100:1 to 350:1, and provide that Regional Water Boards may require that acute toxicity testing be conducted in addition to chronic as necessary for the protection of beneficial uses of ocean waters.

The effluent limitation for chronic toxicity contained in Order No. 2001-08 is retained in this Order although the RPA for chronic toxicity indicated Endpoint 2. The effluent limitation is retained because the RPA for most Ocean Plan Table B toxic pollutants indicated a result of Endpoint 2 or 3, and effluent limitations for these pollutants were not retained. The chronic toxicity effluent limitation is retained to protect water quality from the combination of effluents that may contain several constituents whose toxic effects are additive, synergistic, or antagonistic, although each constituent may not be present in amounts that would be toxic by itself. Based on the effluent limitation for chronic toxicity contained in Order No. 2001-08, the procedures in the Ocean Plan for calculating effluent limitations, and an initial dilution factor of 260, a maximum daily effluent limitation of 261 TU_c for chronic toxicity is included in Order No. R9-2006-0055.

The technology-based acute toxicity effluent limitation contained in Order No. 2001-08, as required under the 1997 Ocean Plan, is not retained in Order No. R9-2006-0055. The 2005 California Ocean Plan eliminated the technology-based acute toxicity effluent limitation of the 1997 Ocean Plan and instead includes an acute toxicity water quality objective in Table B. Only a performance goal for acute toxicity is included in this Order based on a reasonable potential analysis result of Endpoint 2 based on the acute toxicity water quality objective.

A toxicity reduction evaluation (TRE) is a site-specific study conducted in a stepwise process designed to identify the causative agent(s) of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity. Order No. R9-2006-0055 requires the Discharger to perform a TRE if the Executive Officer determines that toxicity testing shows consistent violation or exceedance of any acute or chronic toxicity limitation or performance goal.

5. Radioactivity

Table B of the Ocean Plan includes an objective for radioactivity which references limitations specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Section 30253 of the CCR. The Ocean Plan also states that these objectives shall apply directly to the undiluted waste effluent. Title 17 CCR does not actually contain limitations but instead references Title 10, Part 20 of the CFR which contains effluent limitations for the discharge of radioactive nuclides in aqueous effluent under Column 2 of its Appendix B, Table 2. Incorporation of those limitations in the Ocean Plan is prospective. The Ocean Plan's radioactivity objective holds all discharges of effluent that could potentially have radioactive materials to the same standards as effluents from facilities that would require a license under Title 17 CCR and Title 10 CFR regulations. It is appropriate to hold effluent from POTWs to the same standards because 10 CFR regulations do allow licensed facilities to dispose of radioactive materials to sanitary sewer systems. Effluent limitations for several important radionuclides taken from Appendix B, Table 2, 10 CFR 20 are provided below.

**Table 18. Selected Radioactivity Effluent Limitations
 (from Table 2, Appendix B, Title 10 CFR Part 20)**

Constituent	Units	Daily Maximum
Radium-226	pCi/ L	60
Radium-228	pCi/ L	60
Strontium-90	pCi/ L	500
Tritium	pCi/ L	1,000,000
Uranium	pCi/ L	300

D. Final Effluent Limitations

The following tables list the effluent limitations established by Order No. R9-2006-0055. Where Order No. R9-2006-0055 establishes water quality-based mass emission rates, a flow of 32.86 MGD (representing the combined design flows from all existing contributions to the Ocean Outfall) and a minimum probable initial dilution factor of 260:1 was used.

Table 19. Effluent Limitations based on Secondary Treatment Standards and Table A of the 2005 California Ocean Plan (All POTWs)

Constituent	Units	Effluent Limitations					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
CBOD 5-day 20 °C	mg/L		25	40			
	%	The average monthly percent removal shall not be less than 85 percent.					
Total Suspended Solids	mg/L		30	45			
	%	The average monthly percent removal shall not be less than 85 percent.					
pH	Standard units				6.0	9.0	
Oil and Grease	mg/L		25	40		75	
Settleable Solids	ml/L		1.0	1.5		3.0	

Constituent	Units	Effluent Limitations					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
Turbidity	NTU		75	100		225	

Table 20. Effluent Limitations based on Table A Technology-Based Standards of the 2005 California Ocean Plan (SGU Effluent)

Constituent	Units	Effluent Limitations					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
Total Suspended Solids	mg/L		60				
pH	Standard units				6.0	9.0	
Oil and Grease	mg/L		25	40		75	
Settleable Solids	ml/L		1.0	1.5		3.0	
Turbidity	NTU		75	100		225	

Table 21. Effluent Limitations based on Table A Technology-Based Standards of the 2005 California Ocean Plan (IDP Brine Discharge)

Constituent	Units	Effluent Limitations					
		Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
					Min	Max	
Total Suspended Solids	mg/L		60				
pH	Standard units				6.0	9.0	
Oil and Grease	mg/L		25	40		75	
Settleable Solids	ml/L		1.0	1.5		3.0	
Turbidity	NTU		75	100		225	

Table 22. Effluent Limitations based on 2005 California Ocean Plan

Constituent	RPA End Point	Units	Effluent Limitations					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Chronic Toxicity ₄	2	TU _c	261					
TCDD Equivalents	1	µg/L		1.02E-06				
		lbs/day		2.79E-07				

Note: In scientific "E" notation, the number following the "E" indicates the position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1 E-02 represents a value of 6.1×10^{-2} or 0.061, 6.1E+2 represents 6.1×10^2 or 610, and 6.1E+0 represents 6.1×10^0 or 6.1.

E. Performance Goals

Performance goals serve to maintain existing treatment levels and effluent quality and supports State and federal antidegradation policies. Additionally, performance goals provide all interested parties with information regarding the expected levels of pollutants in the discharge that should not be exceeded in order to maintain the water quality objectives established in the Ocean Plan. Performance goals are not limitations or standards for the regulation of the discharge. Effluent concentrations above the performance goals will not be considered as violations of the permit but serve as red flags that indicate water quality concerns. Repeated red flags may prompt the Regional Water Board to reopen and amend the permit to replace performance goals for constituents of concern with effluent limitations, or the Regional Water Board may coordinate such actions with the next permit renewal.

Constituents that do not have reasonable potential are listed as performance goals in this Order. The following table lists the performance goals established by Order No. R9-2006-0055. These constituents shall be monitored at M-001, but the results will be used for informational purposes only, not compliance determination.

Table 23. Performance Goals based on the 2005 California Ocean Plan

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Arsenic	3	ug/L	7.57E+03				2.01E+04	1.31E+03
		lbs/day	2.08E+03				5.52E+03	3.59E+02
Cadmium	3	ug/L	1.04E+03				2.61E+03	2.61E+02
		lbs/day	2.86E+02				7.16E+02	7.16E+01
Chromium VI	3	ug/L	2.09E+03				5.22E+03	5.22E+02
		lbs/day	5.73E+02				1.43E+03	1.43E+02
Copper	2	ug/L	2.61E+03				7.31E+03	2.63E+02
		lbs/day	7.17E+02				2.01E+03	7.22E+01
Lead	2	ug/L	2.09E+03				5.22E+03	5.22E+02
		lbs/day	5.73E+02				1.43E+03	1.43E+02
Mercury	3	ug/L	4.16E+01				1.04E+02	1.03E+01
		lbs/day	1.14E+01				2.86E+01	2.83E+00
Nickel	2	ug/L	5.22E+03				1.31E+04	1.31E+03
		lbs/day	1.43E+03				3.58E+03	3.58E+02
Selenium	3	ug/L	1.57E+04				3.92E+04	3.92E+03

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
		lbs/day	4.30E+03				1.07E+04	1.07E+03
Silver	3	ug/L	6.89E+02				1.79E+03	1.41E+02
		lbs/day	1.89E+02				4.90E+02	3.87E+01
Zinc	2	ug/L	1.88E+04				5.01E+04	3.14E+03
		lbs/day	5.16E+03				1.38E+04	8.62E+02
Cyanide	3	ug/L	1.04E+03				2.61E+03	2.61E+02
		lbs/day	2.86E+02				7.16E+02	7.16E+01
Total Chlorine Residual	2	ug/L	2.09E+03				1.57E+04	5.22E+02
		lbs/day	5.73E+02				4.30E+03	1.43E+02
Ammonia (expressed as nitrogen)	2	ug/L	6.26E+05				1.57E+06	1.57E+05
		lbs/day	1.72E+05				4.30E+05	4.30E+04
Acute Toxicity	2	TUa	8.1					
Phenolic Compounds (non-chlorinated)	3	ug/L	3.13E+04				7.83E+04	7.83E+03
		lbs/day	8.59E+03				2.15E+04	2.15E+03
Phenolic Compounds (chlorinated)	3	ug/L	1.04E+03				2.61E+03	2.61E+02
		lbs/day	2.86E+02				7.16E+02	7.16E+01
Endosulfan	3	ug/L	4.70E+00				7.05E+00	2.35E+00
		lbs/day	1.29E+00				1.93E+00	6.45E-01
Endrin	3	ug/L	1.04E+00				1.57E+00	5.22E-01
		lbs/day	2.86E-01				4.30E-01	1.43E-01
HCH	3	ug/L	2.09E+00				3.13E+00	1.04E+00
		lbs/day	5.73E-01				8.59E-01	2.86E-01
Radioactivity	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.							
Acrolein	3	ug/L		5.74E+04				

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
		lbs/day		1.58E+04				
Antimony	3	ug/L		3.13E+05				
		lbs/day		8.59E+04				
Bis (2-chloroethoxy) Methane	3	ug/L		1.15E+03				
		lbs/day		3.15E+02				
Bis (2-chloroisopropyl) Ether	3	ug/L		3.13E+05				
		lbs/day		8.59E+04				
Chlorobenzene	3	ug/L		1.49E+05				
		lbs/day		4.08E+04				
Chromium (III)	3	ug/L		4.96E+07				
		lbs/day		1.36E+07				
Di-n-butyl Phthalate	3	ug/L		9.14E+05				
		lbs/day		2.51E+05				
Dichlorobenzenes	3	ug/L		1.33E+06				
		lbs/day		3.65E+05				
Diethyl Phthalate	3	ug/L		8.61E+06				
		lbs/day		2.36E+06				
Dimethyl Phthalate	3	ug/L		2.14E+08				
		lbs/day		5.87E+07				
4,6-Dinitro-2-Methylphenol	3	ug/L		5.74E+04				
		lbs/day		1.58E+04				
2,4-Dinitrophenol	3	ug/L		1.04E+04				
		lbs/day		2.86E+03				
Ethylbenzene	3	ug/L		1.07E+06				
		lbs/day		2.94E+05				

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Fluoranthene	3	ug/L		3.92E+03				
		lbs/day		1.07E+03				
Hexachlorocyclopentadiene	3	ug/L		1.51E+04				
		lbs/day		4.15E+03				
Nitrobenzene	3	ug/L		1.28E+03				
		lbs/day		3.51E+02				
Thallium	3	ug/L		5.22E+02				
		lbs/day		1.43E+02				
Toluene	3	ug/L		2.22E+07				
		lbs/day		6.09E+06				
Tributyltin	3	ug/L		3.65E-01				
		lbs/day		1.00E-01				
1,1,1-Trichloroethane	3	ug/L		1.41E+08				
		lbs/day		3.87E+07				
Acrylonitrile	3	ug/L		2.61E+01				
		lbs/day		7.16E+00				
Aldrin	3	ug/L		5.74E-03				
		lbs/day		1.58E-03				
Benzene	3	ug/L		1.54E+03				
		lbs/day		4.23E+02				
Benzidine	3	ug/L		1.80E-02				
		lbs/day		4.94E-03				
Beryllium	3	ug/L		8.61E+00				
		lbs/day		2.36E+00				
Bis (2-chloroethyl) Ether	3	ug/L		1.17E+01				
		lbs/day		3.22E+00				
Bis (2-ethylhexyl) Phthalate	3	ug/L		9.14E+02				
		lbs/day		2.51E+02				

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Carbon Tetrachloride	3	ug/L		2.35E+0 2				
		lbs/day		6.45E+0 1				
Chlordane	3	ug/L		6.00E-03				
		lbs/day		1.65E-03				
Chlorodibromo-methane	3	ug/L		2.24E+0 3				
		lbs/day		6.16E+0 2				
Chloroform	3	ug/L		3.39E+0 4				
		lbs/day		9.31E+0 3				
DDT	3	ug/L		4.44E-02				
		lbs/day		1.22E-02				
1,4-Dichlorobenzene	3	ug/L		4.70E+0 3				
		lbs/day		1.29E+0 3				
3,3'-Dichlorobenzidine	3	ug/L		2.11E+0 0				
		lbs/day		5.80E-01				
1,2-Dichloroethane	3	ug/L		7.31E+0 3				
		lbs/day		2.01E+0 3				
1,1-Dichloroethylene	3	ug/L		2.35E+0 2				
		lbs/day		6.45E+0 1				
Dichlorobromo-methane	3	ug/L		1.62E+0 3				
		lbs/day		4.44E+0 2				
Dichloromethane	3	ug/L		1.17E+0 5				
		lbs/day		3.22E+0 4				
1,3-Dichloropropene	3	ug/L		2.32E+0 3				
		lbs/day		6.37E+0 2				
Dieldrin	3	ug/L		1.04E-02				
		lbs/day		2.86E-03				
2,4-Dinitrotoluene	3	ug/L		6.79E+0 2				
		lbs/day		1.86E+0 2				
1,2-Diphenylhydrazine	3	ug/L		4.18E+0 1				

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
		lbs/day		1.15E+0 1				
Halomethanes	3	ug/L		3.39E+0 4				
		lbs/day		9.31E+0 3				
Heptachlor	3	ug/L		1.31E-02				
		lbs/day		3.58E-03				
Heptachlor Epoxide	3	ug/L		5.22E-03				
		lbs/day		1.43E-03				
Hexachlorobenzene	3	ug/L		5.48E-02				
		lbs/day		1.50E-02				
Hexachlorobutadiene	3	ug/L		3.65E+0 3				
		lbs/day		1.00E+0 3				
Hexachloroethane	3	ug/L		6.53E+0 2				
		lbs/day		1.79E+0 2				
Isophorone	3	ug/L		1.91E+0 5				
		lbs/day		5.23E+0 4				
N-Nitrosodimethylamine	3	ug/L		1.91E+0 3				
		lbs/day		5.23E+0 2				
N-Nitrosodi-N-propylamine	3	ug/L		9.92E+0 1				
		lbs/day		2.72E+0 1				
N-Nitrosodiphenylamine	3	ug/L		6.53E+0 2				
		lbs/day		1.79E+0 2				
PAHs	3	ug/L		2.30E+0 0				
		lbs/day		6.30E-01				
PCBs	3	ug/L		4.96E-03				
		lbs/day		1.36E-03				
1,1,2,2-Tetrachloroethane	3	ug/L		6.00E+0 2				
		lbs/day		1.65E+0 2				
Tetrachloroethylene	3	ug/L		5.22E+0 2				
		lbs/day		1.43E+0 2				
Toxaphene	3	ug/L		5.48E-02				
		lbs/day		1.50E-02				

Constituent	RPA End Point	Units	Performance Goals					
			Max Daily	Average Monthly	Average Weekly	Instantaneous		6 Month Median
						Min	Max	
Trichloroethylene	3	ug/L		7.05E+0 3				
		lbs/day		1.93E+0 3				
1,1,2-Trichloroethane	3	ug/L		2.45E+0 3				
		lbs/day		6.73E+0 2				
2,4,6-Trichlorophenol	3	ug/L		7.57E+0 1				
		lbs/day		2.08E+0 1				
Vinyl Chloride	3	ug/L		9.40E+0 3				
		lbs/day		2.58E+0 3				

Note: In scientific “E” notation, the number following the “E” indicates the position of the decimal point in the value. Negative numbers after the “E” indicate that the value is less than 1, and positive numbers after the “E” indicate that the value is greater than 1. In this notation a value of 6.1 E-02 represents a value of 6.1×10^{-2} or 0.061, 6.1E+2 represents 6.1×10^2 or 610, and 6.1E+0 represents 6.1×10^0 or 6.1.

F. Antidegradation

Waste Discharge Requirements for SOCWA’s discharge through the Ocean Outfall must conform to federal and state antidegradation policies provided at 40 CFR 131.12 and in State Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*. The antidegradation policies require that beneficial uses and the water quality necessary to maintain those beneficial uses in the receiving waters of the discharge shall be maintained and protected, and, if existing water quality is better than the quality required to maintain beneficial uses, the existing water quality shall be maintained and protected unless allowing a lowering of water quality is necessary to accommodate important economic and social development or consistent with maximum benefit to the people of California. When a significant lowering of water quality is allowed by the Regional Water Board, an antidegradation analysis is required in accordance with the State Water Board’s Administrative Procedures Update (July 2, 1990), Antidegradation Policy Implementation for NPDES Permitting.

1. Technology-based Effluent Limitations

The technology-based standards for POTW performance are promulgated at 40 CFR Part 133 and expressed as 30-day averages and 7-day averages for BOD₅, CBOD₅ and TSS. In previous NPDES permits for SOCWA, including Order No. 2001-08, these standards were incorporated as “Monthly Average (30-day)” and “Weekly Average (7-day)” effluent limitations for CBOD₅ and TSS which were

enforced by the Regional Water Board as running averages. To comply with 40 CFR 122.45, which requires that effluent limitations be expressed as average weekly and average monthly limitations for POTWs, the CBOD₅ and TSS standards have been revised in Order No. R9-2006-0055 as Average Monthly Effluent Limitations (AMELs) and Average Weekly Effluent Limitations (AWELs) that are numerically equal to the previous effluent limitations. As explained in the Compliance Determination section of this Order, compliance with the AMEL and AWEL will be determined by considering the average of sampling results within a calendar month or calendar week, respectively, rather than as running averages. As also further explained in the Compliance Determination section of Order No. R9-2006-0055, a violation of the AMEL or the AWEL would result in a violation for each day of the calendar month or calendar week, respectively. Consequently, the AMEL and AWEL are expected to provide a similar level of incentive for POTWs to operate treatment facilities to be in compliance at all times as the previous “Monthly Average (30-day)” and “Weekly Average (7-day)” running average effluent limitations. The conversion of the CBOD₅ and TSS effluent limitations to AMEL and AWEL are not expected to cause a change in the physical nature of the effluent discharged and are not expected to impact beneficial uses nor cause a reduction of the water quality of the receiving water. For these reasons, the Regional Water Board has determined that an antidegradation analysis is not required to consider the possible impacts resulting from the CBOD₅ and TSS AMELs and AWELs.

2. Water Quality-based Effluent Limitations

The WQBELs contained in this Order have been modified from previous NPDES permits for the SOCWA (Order No. 2001-08), due to removal of effluent limitations after a RPA. In accordance with the State Water Board’s Administrative Procedures Update, the Regional Water Board assessed the potential impact of the modified effluent limitations on existing water quality and the need for an antidegradation analysis as follows:

a. Flowrate Increase

The new total permitted flow rate of 32.86 MGD, is an increase over the previous permitted total flowrate of 27.0 MGD. This increased flowrate is based on the actual design flows of the POTWs contributing to the Ocean Outfall and the expected long-term average flow from the IDP whereas the flow used in Order No. 2001-08 was based on the expected flow through the outfall. This increase in flow results in a relaxation of the MER effluent limitations, which may indicate a lowering of water quality. This change to use of the design flow of the POTWs as the basis for calculating the MER is based on the NPDES regulations at 40 CFR 122.45(b).

In Order No. R9-2006-0055, the MER effluent limitation for TCDD equivalents has been increased from 2.30×10^{-7} pounds per day (lbs/day) to 2.79×10^{-7} lbs/day. This change results in a 21 percent increase in the MER for TCDD equivalents. It should be noted that the allowable dilution did not change and therefore, the concentration-based effluent limitation for TCDD equivalents (1.02

$\times 10^{-6}$ µg/L as a monthly average) remains the same as that contained in Order 2001-08.

The greater MER results in the potential to lower existing water quality by an increment not greater than approximately 21 percent of the monthly average water quality objective (WQO). This lowering of water quality is not expected to be significant and is not expected to cause adverse effects to the overall receiving water. Furthermore, the increase in mass that the effluent may contain assumes a discharge at the concentration of the effluent limitation (1.02×10^{-6} pg/L), whereas historical effluent data for the discharge through the Ocean Outfall indicate that the concentration of TCDD equivalents in the effluent discharged are considerably lower. For these reasons, the Regional Water Board has determined that an antidegradation analysis is not required to consider the possible impacts resulting from the recalculation of MER effluent limitations and consequent relaxation of effluent limitations.

b. Removal of effluent limitations after a reasonable potential analysis

Effluent limitations were not included in this Order for constituents for which reasonable potential to exceed the water quality objective was not indicated following a reasonable potential analysis although Order No. 2001-08 included effluent limitations for those constituents. The procedures for conducting the reasonable potential analysis are explained elsewhere in this Fact Sheet. For constituents for which effluent limitations were not included, non-regulatory performance goals were included which will indicate the level of discharge at which possible water quality impacts may be significant. The removal of effluent limitations by itself is not expected to cause a change in the physical nature of the effluent discharged and is not expected to impact beneficial uses nor cause a reduction of the water quality of the receiving water. Coupled with the inclusion of performance goals and retention of the monitoring program for constituents without effluent limitations, the existing water quality is expected to be maintained. For these reasons, the Regional Water Board has determined that an antidegradation analysis is not required to consider the possible impacts resulting from the removal of effluent limitations following a reasonable potential analysis.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations contained in Order No. R9-2006-0055 are derived from the water quality objectives for ocean waters established by the Basin Plan (1994) and the Ocean Plan (2005).

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water

Boards to require technical and monitoring reports. The Monitoring and Reporting Program, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for this Facility.

A. Influent Monitoring

Influent monitoring in Order No. R9-2006-0055 is required at each of the municipal wastewater treatment plants that contribute to the Ocean Outfall, including the SOCWA JRP, the SOCWA Coastal TP, the Los Alisos WRP, and the El Toro WRP. Monitoring the influent is necessary for determining compliance with the secondary treatment percent removal requirements.

The influent monitoring requirements, with frequencies consistent with those contained in Order No. 2001-08, are summarized in the following table.

Table 24. Influent Monitoring Requirements

Constituent	Units	Sample Type	Sampling Frequency
Flow	MGD	Recorder / Totalizer	Continuous
CBOD ₅ @ 20° C	mg/L	24 Hr Composite	Weekly
BOD ₅ @ 20° C	mg/L	24 Hr Composite	Monthly
TSS	mg/L	24 Hr Composite	Weekly

Influent monitoring for CBOD₅ and TSS allows determination of removal efficiencies, which are limited by Order No. R9-2006-0055. Sampling for BOD₅ is required to monitor the non-carbonaceous oxygen demand of the effluent from the wastewater treatment plants.

B. Effluent Monitoring

In an effort to standardize monitoring and reporting requirements and in order to support electronic data submittal of Discharger Self-Monitoring Reports, reporting units, definitions, and deadlines specified in the MRP for Order No. R9-2006-0055 have been written in accordance with the State Water Board's Water Quality Permit Standards Team Final Report.

Effluent monitoring has been required for each of the wastewater treatment plants prior to discharge into the Ocean Outfall collection system to determine compliance with the applicable technology-based effluent limitations, including the percent removal requirements. Because a sampling point that represents the combined flow contributions to the Ocean Outfall does not exist, effluent monitoring to determine compliance with WQBELs is also required for each of the contributors that discharge into the Ocean Outfall collection system, including the SOCWA JRP, the SOCWA Coastal TP, the Los Alisos WRP, the El Toro WRP, the IDP, and the SGU effluent. The effluent from the SGU shall also be sampled for VOCs once per month if discharges occur to the Ocean Outfall during

that month. The SGU treatment system is designed to remove VOCs, and the monitoring requirements will provide data for the Regional Water Board to assess the effectiveness of the treatment system to remove VOCs prior to discharge through the Ocean Outfall. The sampling location for each contributor shall be at a location, which is representative of their final effluent prior to mixing with other flows in the Ocean Outfall (including the land outfall system).

As noted during the recent compliance evaluation inspection at SOCWA, the methods employed for producing a composite sample for analysis for toxic pollutants compromises the samples taken. This is particularly true for the volatile organic fraction. Further, the methodology used by SOCWA to compile and summarize data for the conventional and nonconventional parameters is inconsistent, particularly as it relates to handling values reported as below detection levels or non-detect. SOCWA will be required to develop procedures to ensure the integrity of final effluent samples for toxic pollutants and data compilation for conventional and nonconventional parameters.

All effluent monitoring frequencies from Order No. 2001-08 are retained by MRP No. R9-2006-0055. Effluent monitoring requirements of MRP No. R9-2006-0055 (Attachment E) should be consulted for greater detail regarding specific monitoring requirements.

C. Whole Effluent Toxicity Testing Requirements

The Discharger shall conduct acute and chronic toxicity testing on 24-hour composite effluent samples collected at Effluent Monitoring Station M-001, as defined in Section II of the MRP (Attachment E). Due to the nature of the variety of discharges that are combined prior to discharge through the Ocean Outfall, acute and chronic toxicity are required to be monitored monthly, consistent with the requirements in the existing permit.

Acute toxicity testing shall be performed using either a marine fish or invertebrate species in accordance with procedures established by the USEPA guidance manual, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5th Edition, October 2002 (EPA-821-R-02-012).

Critical life stage toxicity tests shall be performed to measure chronic toxicity (TU_c). Testing shall be performed using methods outlined in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (Chapman, G.A., D.L. Denton, and J.M. Lazorchak, 1995) or *Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project* (SWRCB, 1996).

A screening period for chronic toxicity shall be conducted every other year for 3 months, using a minimum of three test species with approved test protocols (from the Ocean Plan). Other tests may be used, if they have been approved for such testing by the State Water Board. The test species shall include a fish, an invertebrate, and an aquatic plant. After the screening period, the most sensitive test species shall be used

for the monthly testing. Repeat screening periods may be terminated after the first month if the most sensitive species is the same as found previously to be most sensitive. Dilution and control water should be obtained from an unaffected area of the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with test results.

D. Receiving Water Monitoring

1. Surf Zone Water Quality Monitoring

For the period of March 2001 through December 2005, samples collected at several surf zone stations have frequently shown elevated bacterial levels that exceeded water quality objectives of the Ocean Plan for total and fecal coliform and exceeded recommended levels for enterococcus. Consistent elevated levels of total and fecal coliform and enterococcus were particularly identified at the Aliso Creek monitoring station (C1).

Recognizing that significant water-contact recreation, such as surfing and scuba diving, occurs year-round in ocean waters that may be impacted by the discharge from the Ocean Outfall, the Regional Water Board required in Order No. 2001-08 surf zone monitoring frequency at twice per week. Order and MRP No. R9-2006-0055 retain the requirements of Order No. 2001-08 for surf zone water quality monitoring.

It should be noted that in a January 9, 2006 letter to the Regional Water Board, SOCWA requested that a more equitable approach to surf zone monitoring be considered. SOCWA particularly requested a reduction in the monitoring frequency and number of surf zone monitoring stations to be consistent with the requirements of other dischargers along the southern coast of California. Although in its letter SOCWA had proposed several possible alternatives to the existing surf zone monitoring requirements, the Regional Water Board does not believe that enough information exists to reduce the surf zone monitoring requirements as part of this Order. In order to properly assess the opportunity for more equitable distribution of surf zone monitoring requirements, the Regional Water Board is requiring that SOCWA prepare and submit an analysis of surf zone monitoring alternatives in the vicinity of the Ocean Outfall. This analysis shall address at a minimum, 1) identification of other interested parties that should have responsibilities for participating in surf zone monitoring in the vicinity of the Ocean Outfall; 2) alternative techniques and options to accurately monitor and track the Ocean Outfall discharge plume to verify that the discharge plume does not enter the surf zones; and 3) identification of alternatives for identifying the bacterial source(s) in the vicinity of the mouth of Aliso Creek.

2. Near Shore Water Quality Monitoring

For the sample period of March 2001 through December 2005, samples collected at each of the near shore stations have infrequently exceeded the recommended levels for total coliform, fecal coliform, and enterococcus; most sample results were reported as below the method detection limit for the period.

To continue to assess bacteriological conditions in areas used for body contact activities and where shellfish and/or kelp may be harvested, and to continue to assess aesthetic conditions for general boating and recreational uses, Order and MRP No. R9-2006-0055 retains the requirements of Order No. 2001-08 for near shore water quality monitoring. Particularly, MRP No. R9-2006-0055 establishes monitoring at seven near shore locations for total and fecal coliform and enterococcus bacteria in surface samples on a year-round, monthly basis. These stations are located at the 30-foot depth contours; one station 1,000 feet offshore at the outfall location and at three locations up-coast and down-coast from the outfall. Enterococcus monitoring may be suspended in accordance with the conditions contained in Attachment E - Monitoring and Reporting Program.

3. Offshore Water Quality Monitoring

For the sample period of March 2001 through December 2005, samples collected at each of the offshore water quality monitoring stations have infrequently exceeded the recommended levels for total coliform, fecal coliform, and enterococcus; most sample results were reported as below the method detection limit for the period.

To determine compliance with water quality objectives of the Ocean Plan and to determine if Ocean Outfall discharges cause significant impacts to water quality within the zone of initial dilution, and beyond the zone of initial dilution, MRP No. R9-2006-0055 retains the requirements of Order No. 2001-08 for offshore water quality monitoring. Specifically, MRP No. R9-2006-0055 establishes a schedule of monitoring at seven offshore locations for total and fecal coliform and enterococcus bacteria in surface and mid-depth samples on a year-round, monthly basis. In addition, monitoring requirements at the offshore stations have been included for salinity in surface, mid-depth, and bottom samples on a year-round, monthly basis to provide adequate data for evaluating initial dilution.

E. Other Monitoring Requirements

1. Benthic Monitoring

To assess the status of the benthic community and to evaluate the physical and chemical quality of sediments in the receiving water, Order No. R9-2006-0055 retains the requirements of Order No. 2001-08 for benthic monitoring. Specifically, Order No. R9-2006-0055 requires the following monitoring at all offshore stations

during the 4th year of this Order.

- a. Sediment Characteristics. Analyses shall be performed on the upper 2 inches of sediment core samples in accordance with the following schedule:

Table 25. Sediment Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Sulfides	mg/kg	Core	Semiannually
Total Chlorinated Hydrocarbons	mg/kg	Core	Semiannually
BOD ₅	mg/kg	Core	Semiannually
COD	mg/kg	Core	Semiannually
Particle Size Distribution	mg/kg	Core	Semiannually
Arsenic	mg/kg	Core	Annually
Cadmium	mg/kg	Core	Annually
Total Chromium	mg/kg	Core	Annually
Copper	mg/kg	Core	Annually
Lead	mg/kg	Core	Annually
Mercury	mg/kg	Core	Annually
Nickel	mg/kg	Core	Annually
Silver	mg/kg	Core	Annually
Zinc	mg/kg	Core	Annually
Cyanide	mg/kg	Core	Annually
Phenolic Compounds (non-chlorinated)	mg/kg	Core	Annually
Chlorinated Phenolics	mg/kg	Core	Annually
Aldrin and Dieldrin	mg/kg	Core	Annually
Chlordane and Related Compounds	mg/kg	Core	Annually
DDT and Derivatives	mg/kg	Core	Annually
Endrin	mg/kg	Core	Annually
HCH	mg/kg	Core	Annually
PCBs	mg/kg	Core	Annually
Toxaphene	mg/kg	Core	Annually
Radioactivity	pCi/kg	Core	Annually

- b. Infauna. Samples shall be collected with a Paterson, Smith-McIntyre, or orange-peel type dredge, having an open sampling area of not less than 124 square inches and a sediment capacity of not less than 210 cubic inches. The sediment shall be sifted through a 1-millimeter mesh screen and all organisms shall be identified to as low a taxon as possible.

Table 26. Infauna Monitoring Requirements

Determination	Units	Minimum Frequency
Benthic Biota	Identification and Enumeration	Three grabs; Semiannually during Year 4

If the Discharger does not comply with effluent limitations of the Order, the Regional Water Board may require the Discharger to perform the sediment monitoring, described above, on a year-round basis during the term of Order No. R9-2006-0055.

2. Kelp Bed Monitoring

Order and MRP No. R9-2006-0055 retain the requirements of Order No. 2001-08 for kelp bed monitoring. The purpose of this monitoring is to assess the extent to which the discharge of wastes may affect the areal extent and health of coastal kelp beds. Order No. R9-2006-0055 specifically requires the Discharger to participate with other ocean Dischargers in the San Diego Region in an annual regional kelp bed photographic survey.

4. Solids Monitoring

The Discharger shall report, annually, the volume of screenings, sludges, grit, and other solids generated and/or removed during wastewater treatment and the locations where these waste materials are placed for disposal.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which in accordance with 40 CFR 122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D to the Order. Also included are Regional Water Board standard provisions that are included in all permits issued by the Regional Water Board.

B. Special Provisions

1. Re-opener Provisions

Order No. R9-2006-0055 may be re-opened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR Sections 122, 124, and 125.

2. Special Studies and Additional Monitoring Requirements

a. Treatment Plant Capacity

The treatment plant capacity study required by Order No. R9-2006-0055 shall serve as an indicator for the Regional Water Board of increasing hydraulic

capacity and growth in the service area for each contributing wastewater treatment plant.

Ocean Outfall

b. Spill Reporting Requirements

Order No. R9-2006-0055 establishes a reporting protocol for how different types of spills covered by this Order shall be reported to regulatory agencies.

c. Solids Monitoring

Order No. R9-2006-0055 retains the wastewater treatment plant solids monitoring requirements from Order No. 2001-08.

d. Pretreatment Program

Pursuant to 40 CFR Part 403, pretreatment program implementation requirements established in Order No. 2001-08 are retained by this Order. The pretreatment program implementation requirements are based on the standard permit language provided by USEPA Region 9. In addition to the standard program implementation requirements, Order No. R9-2006-0055 includes requirements for re-evaluation of local limits with respect to the effluent limitations and reporting requirements included in this Order as well as all other applicable regulations.

e. Single Operational Upset

1. The term “upset” has broad and narrow definitions in *Attachment A – Definitions* because the term is used both to refer to an “upset” in the general sense as any malfunction or operational failure at a treatment facility and also in a more specific sense to refer to an “upset” as defined at 40 CFR 122.41 (n). The determination that the term “upset” has broad and narrow definitions is discussed further below.
2. Regulatory Upset Defense.
Provision 8 of *Attachment D – Standard Provisions* addresses the use of the regulatory upset defense to completely relieve dischargers of liability for violations under specific situations. According to the US EPA Memorandum “Issuance of Guidance Interpreting Single Operational Upset” (September 27, 1989), upset events that fit the definition of “upset” under 40 CFR 122.41 (n) “provide those who violate technology-based effluent limitations . . . with an affirmative defense to allegations of permit noncompliance, if the exceedance results from an exceptional, unintentional incident which is beyond the control of the party who discharges in violation of his permit. A party who successfully claims upset is not legally liable for the exceedances at issue, and has not violated the (Clean Water Act), his NPDES permit, or categorical

pretreatment standards.” 40 CFR 122.41 (n) states that the regulatory upset defense does not apply to those events caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or careless or improper operation. Provision 8 of Attachment D specifies the conditions that the Discharger must satisfy to claim the regulatory upset defense.

3. Single Operational Upset Defense.

Compliance Determination (Section VII.N of Order No. R9-2006-0055) addresses how a Discharger may be able to limit his liability in the event of a single operational upset (SOU) resulting in multiple violations. The USEPA Memorandum “Issuance of Guidance Interpreting Single Operational Upset” (September 27, 1989) provides the necessary regulatory guidance in case of SOU except for purposes of California Water Code Section 13385 (h) and (i).

The USEPA SOU guidance memo spells out that multiple violations due to an SOU are treated as one violation for each day only. For example, an SOU that results in multiple violations each day over a period of seven days will result in counting seven violations because the multiple violations on each of the seven days are treated as one violation for each day only. If the State or Regional Water Board is taking enforcement in accordance with CWC 13385 (h) and (i), commonly referred to as Mandatory Minimum Penalties, CWC Section 13385 (f)(2) expands a POTW discharger’s ability to limit liability in the case of an SOU by allowing all violations that occur within a 30-day period, instead of each day, due to an SOU to be counted as one violation.

The regulatory upset defense completely relieves a discharger of all liability for violations of technology-based effluent limitations but not in cases where the violations are caused by operator error. In contrast, according to the USEPA SOU guidance memo, the SOU defense serves to only limit a discharger’s liability for violations but applies to both technology-based and water quality-based effluent limitations even if caused by unknowing and unintentional operator error. For purposes of Mandatory Minimum Penalties in accordance with CWC Section 13385 (f)(2), the SOU defense does not apply when the upset was caused by operator error and was not due to discharger negligence.

The effect of CWC Section 13385 (f)(2) on reducing a POTW discharger’s liability is illustrated in the following example:

A POTW discharged 20,000 gallons of treated effluent each day over two days, and the effluent quality exceeded the concentration effluent limitations and the mass emission rate limitations of the POTW’s NPDES permit for iron and copper on both days. The POTW reported to the Regional Water Board that despite its best efforts, increased filamentous bacteria growth in the aeration tank due to a single operational upset resulted in a slight reduction in settling in the secondary clarifier which in

turn resulted in the increased iron and copper content of the effluent. The Regional Water Board determined that four serious violations occurred on each day for a total of eight serious violations over the two days due to a single operational upset. Taking the SOU defense into account according to USEPA guidance, the Regional Water Board would determine that the four violations on each day collapse to one violation on each day and the POTW can be civilly liable for up to \$10,000 per day of violation plus up to \$10 per gallon discharged over 1,000 gallons [in accordance with CWC Section 13385 (c)] for a total possible maximum civil liability of \$410,000 (i.e., \$20,000 for two days of violations and \$390,000 for the 39,000 gallons discharged over the initial 1,000 gallons). However, if the Regional Water Board determines mandatory minimum penalties in accordance with CWC Sections 13385 (h) and (i), the Regional Water Board must also consider the SOU defense in accordance with CWC Section 13385 (f)(2). In that case, the eight serious violations collapse to one violation with a Mandatory Minimum Penalty of \$3,000.

4. Twenty-four Hour Reporting for Upsets.

Provision E.5(b)(2) of *Attachment D – Standard Provisions* requires that “any upset that exceeds any effluent limitation in this Order” must be reported within 24 hours from the time the discharger becomes aware of the circumstances. This standard provision is authorized at 40 CFR 122.41(l)(6)(ii)(B) and is interpreted to require reporting of any upset, in the broad sense, that results in an exceedance of any effluent limitation. The term “upset” in this provision cannot be limited to the meaning of the term “upset” within 40 CFR 122.41 (n), which only applies to exceedances of technology-based effluent limitations, and must be interpreted broadly because an “upset”, in the broad sense, can result in exceedance of water quality-based effluent limitations. Therefore, this provision also applies to the reporting of single operational upsets.

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as a NPDES permit for the SOCWA Ocean Outfall. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through publication in the Orange County Register on May 8, 2006 and by letters mailed to interested parties on May 5, 2006.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on June 7, 2006.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: June 14, 2006
Time: 9:00 am
Location: Regional Water Quality Control Board, San Diego
9174 Sky Park Court Suite 100
San Diego, CA 92123

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is <http://www.waterboards.ca.gov/sandiego> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RoWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the Regional Water Board office at 9174 Sky Park Court, Suite 100, San Diego, CA 92123 at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday, except state holidays. Copying of documents may be arranged through the Regional Water Board by calling 858-467-2952.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Joann Lim at (858) 637-5589.